

Amendments to the Specification

The following paragraphs of the specification have been amended as shown.

[0044] Referring now to FIGS. 5-6, a second embodiment of the present invention is shown. Injection molding system 500 includes a manifold 502 and a nozzle 504. Nozzle 504 is a valve-gated hot runner nozzle. Injection molding system 500 further includes a thermocouple 528.

[0047] The actuation of valve pin 510 and the functioning, variations, and control of the valve pin actuation mechanism may be any of the systems as described above with respect to the first embodiment, for example utilizing a transducer 524 and a servo valve 523.

[0053] FIGS. 7 and 8 show another embodiment of the present invention, depicting another possible arrangement of a valve pin 710 and an independently actuated flow control pin 714 within an injection molding system 700. In this embodiment, valve pin 710 is laterally offset with respect to actuated flow control pin 714 and at an angle α therewith. FIG. 7 shows valve pin 710 in a first position, unseated from gate 708 to allow melt to flow through gate 708 into mold cavity 709. FIG. 8 shows valve pin 710 seated within gate 708 to prevent the flow of melt into mold cavity 709. System 700 functions similarly as described above with respect to the first and second embodiments, for example utilizing transducers 724 and 725, a servo valve 722, and a thermocouple 728.

[0055] System 900 functions similarly as described above with respect to the first and second embodiments, for example utilizing a transducer 924, a servo valve 922, and

a thermocouple 928, except that valve pin actuation mechanism 912 is controlled by a method other than a servo valve. As previously mentioned, valve pin actuation mechanism 912 may be controlled by a computer that follows a pre-determined cycle. The computer would signal circuitry connected to the driving mechanism according to the cycle, and the circuitry would trigger the driving mechanism, and piston 913 would be driven up or down. Alternatively, valve pin actuation mechanism 912 may be controlled by an operator who manually triggers the driving mechanism.